

Sunfix[®] SPR

Maximize your productivity with our breakthrough Sunfix SPR dye -
your shortcut to success in pale cotton dyeing



Version. 2.0

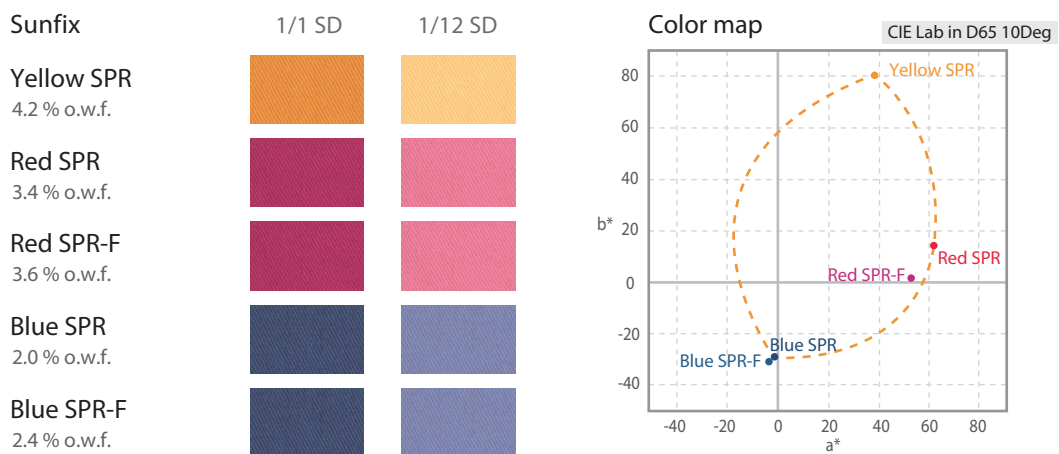
Sunfix® SPR

Features / Advantages

Sunfix SPR is developed for stable dyeing results despite changes in dyeing conditions, especially liquid ratio in exhaustion dyeings, and has extremely excellent compatibility between the three combinations. It is the best choice for difficult pastel colors such as grey, khaki and brown.

- ✓ In most dyeing, Y/R/B SPR three dyes have excellent fastness. Red SPR-F is recommended if improved fastness to light is required, and Blue SPR-F is recommended if improved fastness to chlorine is required.
- ✓ The special characteristics of SPR dyes, high substantivity and penetrating power, promise excellent reproducibility even if dyeing conditions such as fabric and dyeing machine are not constant.
- ✓ Eco-friendly products that meet bluesign and ZDHC MRSL requirements.

The shade of Sunfix SPR dyes and Fastness properties



Fastness properties

Sunfix	1/1 SD (% o.w.f.)	Light	Water	Perspiration	Washing						M&S C10A (Color retention)	Chlorinated water	Rubbing	Dischargeability
					CA	CO	PA	PES	PAN	WO				
Yellow SPR	4.2	6-7 6	4-5 4-5	4-5 4-5	4-5	4	4-5	4-5	4-5	4-5	4	4-5	5 3-4	A A
Red SPR	3.4	4 4	4-5 4-5	4-5 4-5	4-5	4	4-5	4-5	4-5	4-5	4	4	5 3-4	W W
Red SPR-F	3.6	5 4-5	4-5 4-5	4 4	4-5	3	4-5	4-5	4-5	4-5	4-5	2-3	5 3-4	W B
Blue SPR	2.0	6 5	4-5 4	3-4 3	4-5	2	4-5	4-5	4-5	4-5	4-5	2-3	4-5 4	A A
Blue SPR-F	2.4	5-6 5	4-5 4-5	4 3-4	4-5	3	4-5	4-5	4-5	4-5	4-5	3	4-5 4	A A

Fastness Test Methods

* Light (ISO 105-B02)
- Upper : 1/1 SD
- Lower : 1/6 SD

* Water (ISO 105-E01, 37 °C x 4 hrs.)
- Upper : Color change
- Lower : Staining

* Perspiration (ISO 105-E04, 37 °C x 4 hrs.)
- Upper : Acid solution, Staining
- Lower : Alkali solution, Staining

* Washing (ISO 105-C06, C25)
- 60 °C x 30 min.
- Staining

* M&S C10A (Oxidative Bleach Damage)
- 60 °C x 30 min., L/R = 1:100
- ISO 105-C09

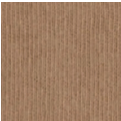

* Chlorinated water (ISO 105-E03)
- 27 °C x 1 hr.
- Active chlorine : 20 ppm

* Rubbing (ISO 105-X12)
- Upper : Dry
- Lower : Wet

* Dischargeability
- Upper : Rongalite C
- Lower : Decrolin
(Grade : W > A > B > C)

Suitable Colors for Sunfix SPR dyes

These are good colors to dye with SPR dyes.

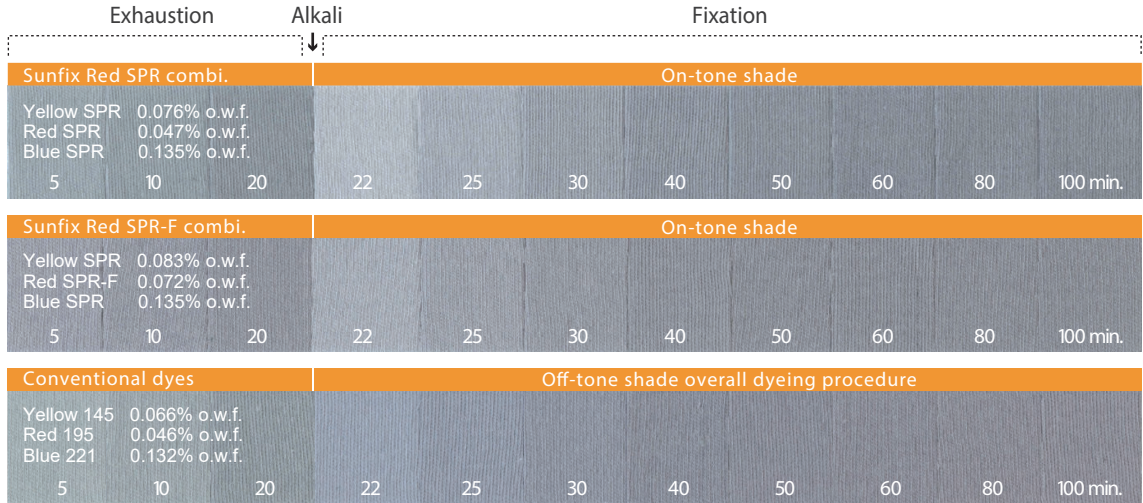
	PANTONE	CM 40's Interlock	Dyes	% o.w.f.	CMC DE* (D65/F02)	Light Fastness	Washing Fastness
2022/2023 A/W (New York)	16-3917 TCX		Yellow SPR	0.1060	0.15/0.44	4	4-5
			Red SPR	0.0680			
			Blue SPR	0.1540			
2022/2023 A/W (London)	15-1040 TCX		Yellow SPR	0.4450	0.21/0.41	4	4-5
			Red SPR-F	0.1200			
			Blue SPR-F	0.0420			
	12-1403 TCX		Yellow SPR	0.0334	0.23/0.21	4	4-5
			Red SPR-F	0.0110			
			Blue SPR	0.0058			
2022 S/S (New York)	14-4104 TCX		Yellow SPR	0.0230	0.32/0.23	4-5	4-5
			Red SPR-F	0.0090			
			Blue SPR	0.0250			
	13-0003 TCX		Yellow SPR	0.0250	0.14/0.19	4	4-5
			Red SPR-F	0.0105			
			Blue SPR	0.0080			
2021/2022 A/W (New York)	17-5104 TCX		Yellow SPR	0.1020	0.20/0.11	4-5	4-5
Red SPR-F	0.0710						
Blue SPR-F	0.1340						
2021 S/S (New York)	11-0110 TCX		Yellow SPR	0.0130	0.13/0.18	4-5	4-5
Red SPR-F	0.0026						
Blue SPR	0.0012						
2020/2021 A/W (New York)	12-0713 TCX		Yellow SPR	0.0298	0.58/0.37	4	4-5
Blue SPR	0.0011						
2020 S/S (New York)	17-4021 TCX		Yellow SPR	0.0530	0.11/0.42	4-5	4-5
			Red SPR-F	0.0300			
			Blue SPR	0.2020			
	13-0822 TCX		Yellow SPR	0.0950	0.35/0.17	4-5	4-5
			Red SPR	0.0010			
			Blue SPR	0.0025			

* Dyeing condition : CM 40's Interlock, Exhaustion 60°C x 60min., Liquor ratio = 1:10

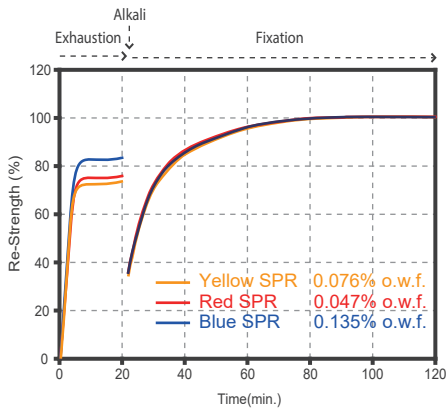
Compatibility

The similar shade on the fabric from the beginning to the end of the dyeing procedure ensures excellent shade reproducibility.

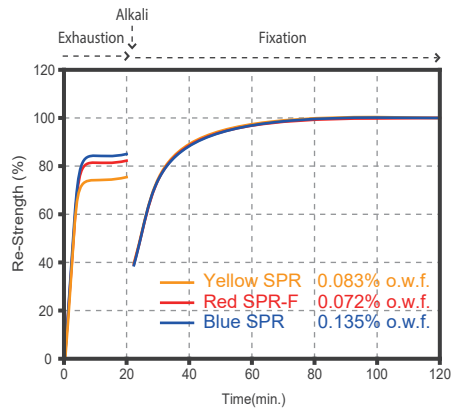
Outstanding compatibility with on-tone shade



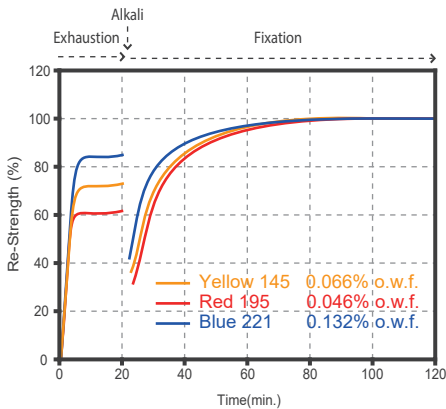
Sunfix Red SPR combi.



Sunfix Red SPR-F combi.



Conventional dyes



Dyeing condition

- Fabric : CM 40's Interlock
- Migration Time : 20min.
- Temp. x Time : 60°C x 60min.
- Liquor ratio : 1 : 10
- Glauber's salt : 17g/l
- Soda ash : 8g/l

Reproducibility

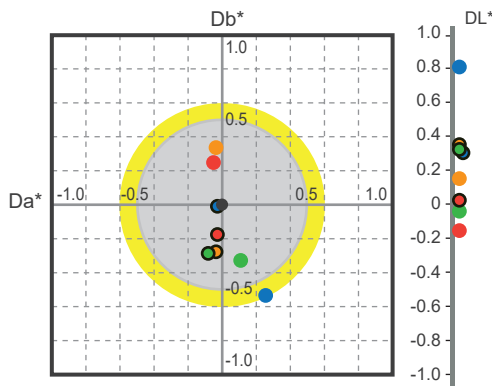
Excellent lab to bulk and bulk to bulk reproducibility with low sensitivity under various dyeing parameters.

RFT (Right-First-Time) Dyeing

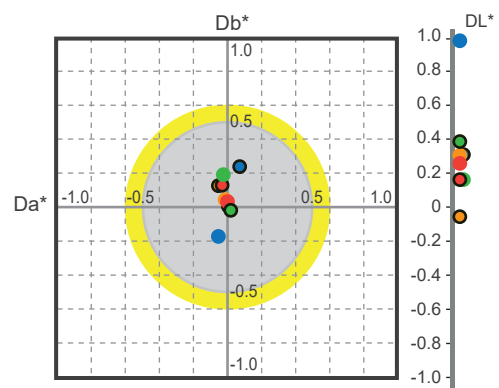
Achieve minimal shade variation even under various dyeing parameters

Standard	Salt		Alkali		Liquor ratio		Temperature	
	-20% ●	+20% ●	-20% ●	+20% ●	1:8 ●	1:12 ●	50°C ●	70°C ●
Sunfix Red SPR combi.								
Yellow SPR	0.076% o.w.f.							
Red SPR	0.047% o.w.f.							
Blue SPR	0.135% o.w.f.							
Sunfix Red SPR-F combi.								
Yellow SPR	0.083% o.w.f.							
Red SPR-F	0.072% o.w.f.							
Blue SPR	0.135% o.w.f.							
Conventional dyes								
Yellow 145	0.066% o.w.f.							
Red 195	0.046% o.w.f.							
Blue 221	0.132% o.w.f.							

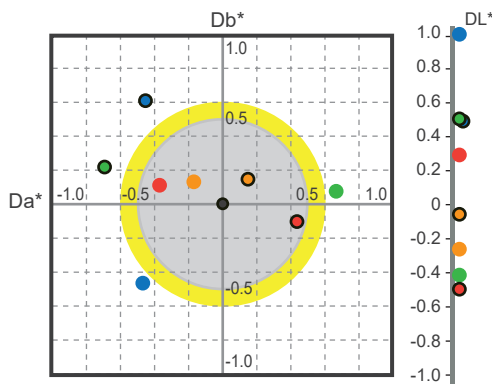
Sunfix Red SPR combi.



Sunfix Red SPR-F combi.



Conventional dyes



Dyeing condition

- Fabric : CM 40's Interlock
- Migration Time : 20min.
- Temp. x Time : 60°C x 60min.
- Liquor ratio : 1 : 10
- Glauber's salt : 17g/l
- Soda ash : 8g/l

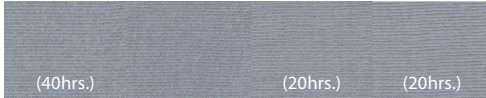

Fastness to Light

Sunfix Red SPR-F is a special dye that expresses pastel colors well and has excellent light fastness. Two advantages of good reproducibility and high light fastness can be obtained at the same time.

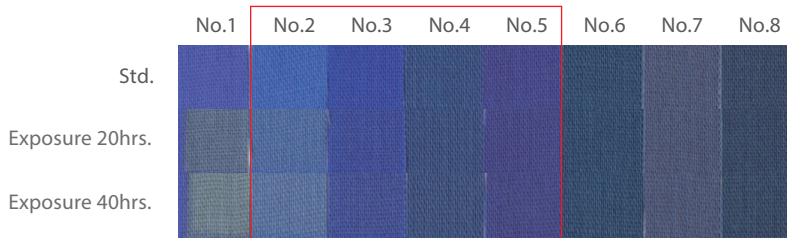
Test method : ISO 105-B02

Testing machine : ATLAS Ci3000+ Xenon Fade-Ometer®

Exposure time and assessment : 20 hrs.(Blue Wool No.4) and 40 hrs.(Blue wool No.5)

		% o.w.f.	Light	Standard	Perspiration Light (Acid)	Perspiration Light (Alkali)
Sunfix SPR dyes	Yellow SPR	0.083 %		Standard	(20hrs.)	(20hrs.)
	Red SPR-F	0.072 %				
	Blue SPR	0.135 %				
	Grade	5				
Conventional dyes	Yellow 145	0.066 %		Standard	(20hrs.)	(20hrs.)
	Red 195	0.046 %				
	Blue 221	0.132 %				
	Grade	4				

Blue wool No. 1~8



Fastness to Chlorinated water



In general, bright blue dyes have poor chlorine fastness, unsatisfactory color stability to repeated laundry, and poor gas fastness. Sunfix Blue SPR-F was developed to compensate for these weaknesses.

Test method : ISO 105-E03

Testing condition : 10 & 20 ppm active chlorine at pH 7.5, Liquor ratio = 1:100

Testing time and temp. : Treat for 1hr. at 27°C

Assessment : Grey scale for color change

			10 ppm	20 ppm
Sunfix Blue SPR-F	1.2%		10 ppm	20 ppm
	Grade			
Reactive Blue 221	1.0%		10 ppm	20 ppm
	Grade			

The grade of Light & Chlorinated water fastness could be different from the above test result as test conditions and the proportion of tri-color dyes even though the same dye combination used. Also it could be low as after-treatment (ex. fixing agent or softner).

Accreditation Certification



ISO 14001
Certification for
Environment Management
System



ISO 9001
Certification for
Quality Management
System



OHSAS 18001
for Health and
Safety Management
System



ISO 50001
Certification for
Energy Management
System



OHYOUNG Laboratory
is accredited with
ISO/IEC 17025



Bluesign System Partner



Zero Discharge of
Hazardous Chemicals



ILAC MRA marking bestows OHYOUNG Inc.'s international recognition in offering quality standards in testing and calibration services with enhances the acceptance of results cross national borders and delivers confidence to the general public and consumers.



Management Systems
Certification from UKAS
in United Kingdom



Ecological and Toxicological
Association of Dyes and Organic
Pigments Manufacturers



Okgu River

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This information and technical advice were prepared very carefully, however complete guarantee can not be given considering various different conditions of dyeing. Our advice does not release you from obligation to check its validity and to test our products to their suitability for the intended processes and uses. If you have any queries, kindly contact your local OHYOUNG Inc.

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